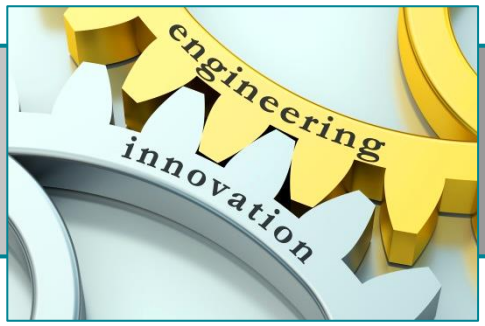
TECHNO OFFER

Electric motor with superconducting inductor

electric motor / magnetic induction / superconducting material



CONTEXT

Superconducting motors are a particularly interesting solution for electric propulsion and power generation. These superconducting devices allow to obtain very high powers and mass and volume torques. In addition, the high efficiency of these machines makes them interesting in terms of energy savings. They are therefore the subject of many studies and researches.

DESCRIPTION

The invention consists of an electric motor equipped with a new type of inductor based on superconducting material, in order to increase the generated magnetic field. This induction device comprises a set of two conductive coils traversed by currents with the same direction, and a central piece along an inclined plane in between the two coils. The centerpiece is made of superconducting material, such as YBaCuO or BSCCO.
To cool the centerpiece, the engine also includes a Dewar-type cryogenic storage.

COMPETITIVE ADVANTAGES

- **Compact and lightweight motor**
- **Best performance: very high magnetic induction level**
- **Cryogenic system**

Markets & applications

Electric motors:

- replacement of any type of conventional electric motor (industry, land transport, etc.)

Development stage

Validation of the prototype at the laboratory level

Research team

"Groupe de Recherche en Energie Electrique de Nancy (GREEN)"
University of Lorraine

Intellectual property

Patent issued in France, USA and Canada (filed on December 18, 2007)

Target partnership

Patent licensing

CONTACT-US

Abdelkader GUELLIL
Business Development Manager
+33 (0)6 26 61 89 06
abdelkader.guellil@sayens.fr

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